

**REMARKS**

The non-final Office Action dated November 13, 2008 was received and carefully reviewed.

Prior to this response, claims 1-9 were pending in the subject application. By this response, no claims have been amended, canceled, or added. Claims 10-20 were canceled by a previous response. Accordingly, claims 1-9 remain pending in the subject application.

Reconsideration and withdrawal of the currently pending rejections are requested for the reasons set forth below.

***Claim Rejections - 35 U.S.C. § 103***

Claims 1-9 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kreuter (U.S. Patent No. 4,013,552) (*Kreuter*, hereinafter) in view of Ehlert (U.S. Patent No. 5,110,403) (*Ehlert*, hereinafter). Applicants traverse this rejection for at least the following reasons.

Applicants respectfully submit that present independent claim 1, and the claims dependent therefrom, are patently distinguishable over *Kreuter* and *Ehlert*, since *Kreuter* and *Ehlert*, either taken alone or in combination, fail to disclose, teach or suggest all of the features recited in the pending claims. For example, independent claim 1 (emphasis added) recites:

Sewage slurry ultrasonic apparatus for applying ultrasonic energy to sewage slurry, the apparatus comprising:  
an applicator having an outwardly facing surface;  
an extender which extends from the outwardly facing surface; and  
at least one booster at the end of the extender remote from the applicator for boosting ultrasonic energy applied thereto to cause the applicator to oscillate,  
**wherein the applicator, extender and booster are integrally formed.**

Thus, independent claim 1 is directed, *inter alia*, the feature of *wherein the applicator, extender and booster are integrally formed*.

Applicants respectfully submit that neither *Kreuter* and *Ehlert*, either taken alone or in combination, fail to disclose, teach, or suggest the feature of *wherein the applicator, extender and booster are integrally formed*, as recited in independent claim 1 of the present invention.

The present invention constitutes a significant departure from the construction used in prior art ultrasonic devices (see, e.g., page 3, lines 21-29 of the instant specification). In particular, prior to the present invention, conventional boosters were always provided as separate components, as they are in *Ehlert*, in order to provide design and operational flexibility. That is, because boosters are used to determine the delivered amplitude, boosters had previously always been provided as separate, detachable, components so that different boosters could be attached depending on the particular operational and environmental requirements, the type of ultrasonic generator used, and the type of material being processed. Furthermore, the need to remove and replace failed boosters was also well known.

At section 1 of the Office Action, the Examiner contends that *Kreuter* discloses all the features of the claimed invention, except for the provision of at least one booster, which the Examiner contends is taught by *Ehlert*. However, *Kreuter* does not teach or suggest that its components are integrally formed, as the Examiner suggests.

However, no where in *Kreuter* does it mention or discuss that the components are, or could be, formed integrally. To the contrary, Figure 4 of *Kreuter* shows that different nozzles N can be attached to the electrostatic horn dependent on different requirements (see *Kreuter*, e.g., col. 5, lns. 35-44). It is therefore implicit that the nozzles must be provided as separate detachable components. This is further supported by Figures 4(a) and (b) of *Kreuter* which show, in cross section, the arm of the electrostatic horn projecting into the nozzle component at the junction there between. Therefore the components of *Kreuter* are clearly not integrally formed, as in the claimed invention.

Furthermore, the electrostatic horn of *Kreuter* is provided with a passageway P through the device (see *Kreuter*, e.g., col. 5, lns. 45-49). This, in conjunction with the formations of the nozzles N would make it impossible for manufacturing reasons for the device shown in

*Kreuter* to be integrally formed (see Figure 4(c), in particular). This would, therefore, prohibit a skilled person from modifying the device of *Kreuter* in this way.

Therefore, *Kreuter* fails to teach or suggest an integrally formed ultrasonic device, as in the claimed invention. Furthermore, *Ehlert* fails to make up for the above-recited deficiencies in *Kreuter*.

However, the Examiner has referred to *Ehlert* as teaching a booster. However, the booster (601) in *Ehlert* is provided as a separate, detachable, component. This is clearly shown and described in *Ehlert*, as booster (601) is detachably connected to booster (602), which in turn is detachably connected to either control horn (603) or mecaasonic horn 604 (see *Ehlert*, e.g., Figure 6, and col. 14, lns. 62-68). Accordingly, there is also nothing in *Ehlert* to teach or suggest providing an integrally formed booster. As such, even taken in combination, *Kreuter* and *Ehlert* fail to disclose, teach, or suggest the claimed features of the present invention.

Therefore, assuming *arguendo* that *Kreuter* were to teach an integral applicator and extender, which Applicants submit *Kreuter* clearly does not, one of ordinary skill in the art seeking to further include a booster in this device would provide it as a separate, detachable, component. This was the conventional practice in the art prior to the present invention, and is the only arrangement taught by *Ehlert*. Accordingly, even taking *Kreuter* and *Ehlert* in combination, one of ordinary skill in the art would not arrive at the claimed invention.

Moreover, *Kreuter* is entirely distinct and incompatible with *Ehlert*, and these documents would therefore not be combined by one of ordinary skill in the art. Firstly, *Ehlert* is directed to ultrasonic welding, and hence would not even be considered by a skilled person looking to improve the device of *Kreuter* for the field of sewage processing. Secondly, *Kreuter* requires a passageway P through the device so that sewage can be expelled out from nozzle N. *Ehlert* provides no teaching, however, of a booster provided with a suitable passageway which would enable it to be incorporated with *Kreuter*. Indeed, such a passageway could not even be incorporated as this would interfere with how the booster attaches to the applicator. Therefore

these documents also lack the necessary teaching for one of ordinary skill in the art to combine them.

At least for the reasons stated above, *Kreuter* and *Ehlert*, either taken alone or in combination, fail to disclose, teach or suggest all the features of present independent claim 1. Therefore, the Examiner has failed to provide a *prima facie* case of obviousness in rejecting independent claim 1. Accordingly, Applicants respectfully submit that independent claim is in condition for allowance, and such action is hereby solicited.

Furthermore, claims 2-9 are allowable at least by virtue of their dependency from claim 1, but are also distinguishable over the prior art. Thus, Applicants respectfully submit that these claims are in condition for allowance, and such action is hereby solicited.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. If, however, the Examiner deems that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney/agent to expedite the prosecution and engage in a joint effort to work out a mutually satisfactory solution.

**Except** for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 19-2380. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,  
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